

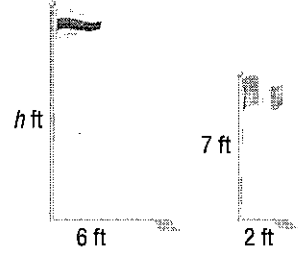
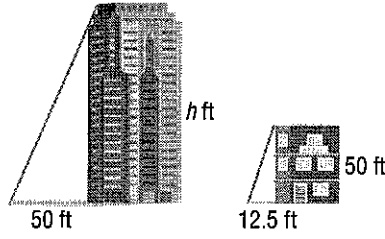
# Practice and Problem Solving

## HOMEWORK HELP

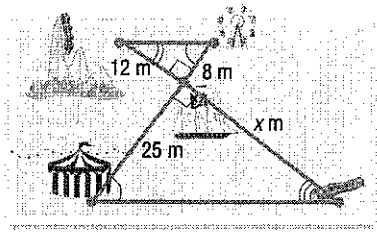
For Exercises	See Examples
3-4	1
5-6	2

In Exercises 3-8, the triangles are similar. Write a proportion and solve the problem.

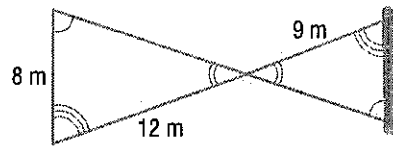
3. **BUILDING** How tall is the building? 4. **FLAGS** How tall is the taller flagpole?



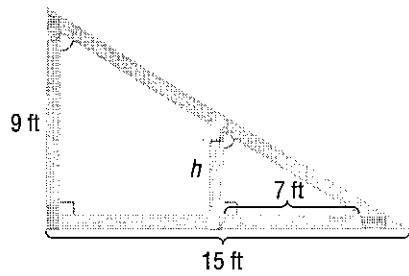
5. **PARKS** How far is it from the log ride to the pirate ship?



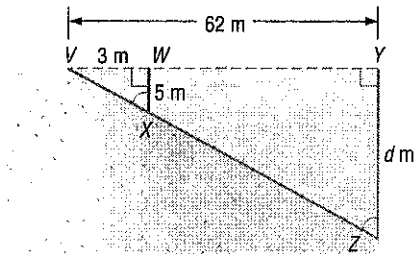
6. **CREEKS** About how long is the log that goes across the creeks?



7. **CONSTRUCTION** Find the height of the brace.



8. **LAKES** How deep is the water 62 meters from the shore?



For Exercises 9 and 10, draw a diagram.

9. **FERRIS WHEELS** The Giant Wheel at Cedar Point in Ohio is one of the tallest Ferris wheels in the country at 136 feet tall. If the Giant Wheel casts a 34-foot shadow, write and solve a proportion to find the height of a nearby man who casts a  $1\frac{1}{2}$ -foot shadow.
10. **BASKETBALL** At 7 feet 2 inches, Margo Dydek is one of the tallest women to play professional basketball. Her coach, Carolyn Peck, is 6 feet 4 inches tall. If Ms. Peck casts a shadow that is 4 feet long, about how long would Ms. Dydek's shadow be? Round to the nearest tenth.

## EXTRA PRACTICE

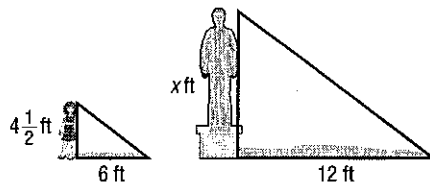
See pages 679, 703.

**H.O.T. Problems**

- OPEN ENDED** Describe a situation that requires indirect measurement. Explain how to solve the problem.
- CHALLENGE** You cut a square hole  $\frac{1}{4}$ -inch wide in a piece of cardboard. With the cardboard 30 inches from your face, the moon fits exactly into the square hole. The moon is about 240,000 miles from Earth. Estimate the moon's diameter. Draw a diagram of the situation. Then write a proportion and solve the problem.
- WRITING IN MATH** What measures must be known in order to calculate the height of tall objects using shadow reckoning?

**TEST PREP PRACTICE**

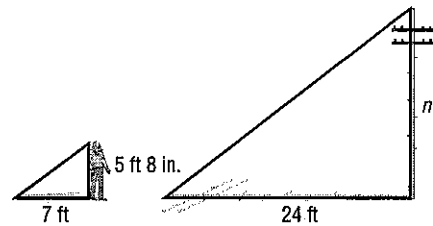
- A child  $4\frac{1}{2}$  feet tall casts a 6-foot shadow. A nearby statue casts a 12-foot shadow.



What is the height of the statue?

- A  $8\frac{1}{4}$  ft      C  $13\frac{1}{2}$  ft  
 B 9 ft          D 24 ft

- A telephone pole casts a 24-foot shadow. Belinda, who is 5 feet 8 inches tall, casts a 7-foot shadow.

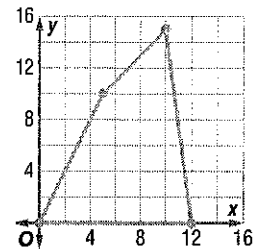


Which is closest to the height of the telephone pole?

- F 50 ft          H 20 ft  
 G 40 ft          J 10 ft

**Spiral Review**

- WATER SAFETY** A Coast Guard boat was patrolling a region of ocean shown on the grid. If their search region was reduced to 60% of its original size, what are the coordinates of region's boundary? (Lesson 4-8)
- PARTIES** For your birthday party, you make a map to your house on a 3-inch wide by 5-inch long index card. How long will your map be if you use a copier to enlarge it so it is 8 inches wide? (Lesson 4-7)



Estimate each square root to the nearest whole number. (Lessons 3-2)

18.  $\sqrt{11}$                       19.  $\sqrt{48}$                       20.  $-\sqrt{118}$

**GET READY for the Next Lesson**

**PREREQUISITE SKILL** Solve each proportion. (Lesson 4-5)

21.  $\frac{1 \text{ in.}}{12 \text{ ft}} = \frac{x \text{ in.}}{50 \text{ ft}}$       22.  $\frac{8 \text{ cm}}{x \text{ km}} = \frac{1 \text{ cm}}{100 \text{ km}}$       23.  $\frac{1 \text{ cm}}{3 \text{ m}} = \frac{x \text{ cm}}{62 \text{ m}}$       24.  $\frac{1 \text{ in.}}{50 \text{ mi}} = \frac{2 \text{ in.}}{x \text{ mi}}$